News from CERN

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Overview

- Meetings and site visits
- Noteworthy developments
- Suggested Requirements
- Recommendations
- Comments

Meetings and Site Visits

Jean and I spent two days (+1 hour) in discussions and visiting CERN sites.

LHC Accelerator discussions:
- Roger Bailey
- Pierre Charrue (FCR)
- Guy Crockford (SM18)
- Mike Lamont
- Roberto Saban
- Hermann Schmickler

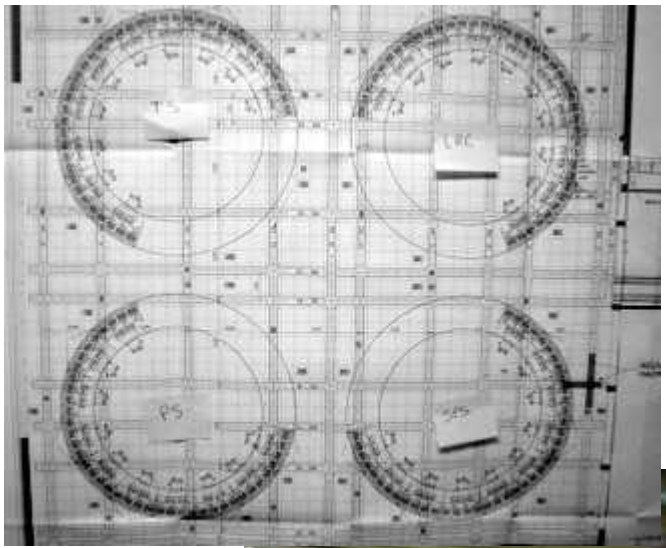
CMS Detector discussions:
- Austin Ball
- Frank Glege (PVSS)
- Hans Hoffmann
- Dragoslav Lazic
- Sergei Lusin (SX5)
- Peter Sharp

Other discussions:
- Pal Anderssen (communications)
- Denise Heagerty (computer security)

Site Visits:
- CCC
- CMS SX5
- SM18 (magnet testing)
- LHC micro control room (at Previssin)
- Video conference room in building 892

Special thanks to Mike Lamont and Jean Slaughter without whom many of these discussions would not have occurred.

LHC Photos



CCC

SM18

CMS Photos

Magnet Test Control Room

Noteworthy Developments

1. There will be a technical review of our LHC@FNAL requirements at CERN in the middle of July. This review will focus on LHC accelerator requirements in preparation for a presentation to CERN's Director General.

2. Hans Hoffmann (CERN-PH) is in charge of planning for a CMS remote operations center that is expected to be located at the Meyrin site, and he is interested in working with us as we develop our plans for LHC@FNAL.

Suggested Requirements

- LHC@FNAL shall have access to LHC accelerator data, but no control over LHC accelerator components – essential
- LHC@FNAL shall have at least two clocks. One clock for local time (at FNAL) and one clock showing the time at CERN – essential
- LHC@FNAL software that displays the time shall display local time (at FNAL) and CERN time – desirable
- LHC@FNAL shall have access to images from a webcam showing an outdoor location at CERN – desirable

Some Recommendations

- Change the order of list items on the 1st page of the requirements document to stress remote participation instead of data monitoring for LHC.
- For CMS actors we should have three types of actors:
  - Shift operator
  - On-call expert (for a subsystem) – the person who responds to problems for a particular subsystem
  - Super expert (for a subsystem) – the person you call when all else fails. This person is "protected" from receiving too many phone calls or e-mail messages by the on-call expert.
- Include additional CMS actors for technical systems such as the magnet, cooling/ventilation, and power distribution.
- For the "normal" CMS shift scenario, how does one wake up a shift operator who has fallen asleep?
- Add page numbers to the requirements document.

LHC Comments

LHC accelerator comments:

- The Field Control Room (FCR) is not mobile. An initial location will be at UA83 (?).
- The LHC tunnel will have GSM and GPRS coverage.
- The "technical network" is the network used for LHC commissioning and operations. It needs to be secured from hackers, computer viruses, etc. Security is driven to a certain extent by not being able to guarantee computer security for all PCs, laptops, etc. that are used at CERN.
  - Access to the technical network is expected to occur through "gateways."
  - Types of gateways are Windows XP terminal server, ORACLE database, CVS repository, and web-servers for file access.
- One can think of LHC@FNAL as the "2nd opinion console" for LHC operations.
- LHC@FNAL plays an important role in providing support for equipment that was not built at CERN.
- Need to include a paragraph (or chapter) that explains that we are not looking for significant resources from CERN (mostly consultation).

CMS Comments

CMS detector comments:

- The control room that is being set up now is for the CMS magnet test.
- There is a separate building for the CMS Control Room.
- The LHC@FNAL requirements document is encouraging people to think about how CMS shifts will be organized.
- CMS reserves the right to disconnect itself from the network for computer security reasons.
- The CMS PVSS user interface works best on a Windows PC. If we run PVSS at LHC@FNAL then we should plan on having Windows PC's available.
- Information from CMS PVSS that is presented on web pages is likely to come from an ORACLE database, and not from PVSS itself.
- CMS PVSS traffic may be directed through an SSH tunnel for security, but this may conflict with plans for CERN computer security.